[CSE 107: Applied Math for Computing](https://moodle.eiu.edu.vn/course/view.php?id=2263#section-0)

DESCRIPTION

This course is designed to refine students' proficiency in utilizing mathematical methods for practical problem-solving and programming applications. It focuses on developing the skills necessary to produce efficient, readable, and reliable code, addressing a spectrum of real-world challenges. Throughout the course, students will engage in an in-depth exploration of advanced problem-solving techniques, coding conventions, and the effective use of software tools. The curriculum is tailored to equip students with the necessary competencies to excel in the dynamic field of software engineering.

OBJECTIVES

After finishing this course, students must achieve the following goals:

* Solve complex problems by apply problem solving and programming techniques.
* Develop efficient, reliable program, and following industrial standard.

LEARNING OUTCOMES

1. Ability of applying mathematical methods to formulate and solve real-world programming challenges.
2. Ability of writing efficient, readable, and reliable code, emphasizing best practices and coding conventions.
3. Proficient in using advanced problem-solving techniques and software tools essential for effective programming.
4. Complies with software industry standards.

MATERIALS

[1]. Frank M. Carrano, Data Structures and Abstractions with Java, 3rd Edition (2012), Prentice Hall.

[2]. G. Clendenen and S. A. Salzman, Business Mathematics, 13th ed. Essex: Pearson Education, 2015.

[3]. Robert C. Martin Series, Clean Code - A Handbook of Agile Software Craftsmanship, PRENTICE HALL, 2009

[4]. Giovanni Scerra, Problem Solving for Software Engineers (<https://www.codeproject.com/articles/858726/problem-solving-for-software-engineers>)

[5]. [Cách tính thuế thu nhập cá nhân năm 2023 từ tiền lương, tiền công (thuvienphapluat.vn)](https://thuvienphapluat.vn/phap-luat-doanh-nghiep/bai-viet/cach-tinh-thue-thu-nhap-ca-nhan-nam-2023-tu-tien-luong-tien-cong-2546.html)

[6]. [Mức đóng bảo hiểm xã hội năm 2023 như thế nào? (luatvietnam.vn)](https://luatvietnam.vn/bao-hiem/muc-dong-bhxh-nam-2022-563-34785-article.html)

Office Hours

1. Tuesday: 8:00 - 11:00, 12:30 - 16:30
2. Thursday: 8:00 - 11:00, 12:30 - 16:30

REFERENCES

1. Slides and documents: <https://drive.google.com/drive/folders/1NFr8w41_BeCQPSYF0E1UIcxB3PMazBTz?usp=sharing>
2. Test cases: <https://drive.google.com/drive/folders/1uDP80mMY0jFiS2VRnUD9LjvPzykuLKKu?usp=sharing>
3. Tool: <https://drive.google.com/file/d/1FGdXodBFJGvNT-NvUxECgx6rycfT9Jpk/view?usp=sharing>
4. Practices: [EIU Programming Page for CIT (SPOJ) - Status](https://www.spoj.com/EIUPROGR/status/), <http://eiu.hoclt.net/2324q2_app/rank.html>
5. Exam Monitoring (test): <https://drive.google.com/file/d/1EZyoQs8bZM_0UtlMTktIGFjR7szaFxhG/view?usp=sharing>
6. Testcase (test): <https://drive.google.com/drive/folders/1jkhQMCVvnooyvKl-Y-iSLPLeQHc0XutR?usp=sharing>